

# ELECTRONIC COUPON PROCESSING SYSTEM

INVENTOR: Dale Burns

## 1 BACKGROUND

2 The present invention relates to the distribution, redemption, authentication, and clearing  
3 of coupons and the like. More particularly, the invention relates to a highly effective and  
4 efficient method and apparatus whereby coupons (such as cents-off merchandise coupons) can be  
5 redeemed, authenticated and cleared electronically.

6 Discount coupons (for example, "cents-off" coupons, rebate coupons, special offer  
7 coupons, or the like, collectively referred to herein as "coupons") have become an integral part  
and a popular means of marketing strategies for many products, particularly retail consumer  
goods, sundries, foodstuffs, hardware, clothing and the like. Such items are typically sold at  
local grocery, drug, and discount stores. Product manufacturers have come to rely upon coupons,  
rebate and gift certificates or the like to promote new and existing products, boost sales, and  
obtain demographic information concerning consumer buying patterns. Consumers use coupons  
to reduce costs.

F4 For example, in 1992, approximately 310 billion coupons were distributed, with 7.7  
15 billion coupons redeemed, saving consumers approximately 4 billion dollars. It has been  
16 estimated that coupons, coupled with advertising, can increase sales by as much as 500%. A  
17 typical coupon marketing scheme involves printing the coupons in the newspaper or inserting  
18 coupon inserts into the newspaper, and allowing consumers to bring the printed coupons to a  
19 store for redemption. Other means of distributing coupons include printing or inserting in

1 magazines, or other publications, by direct mail methods, and on products distributed at retail  
2 establishments.

3 Known couponing techniques have several drawbacks, not the least of which are low  
4 response rate, fraud, and high administrative processing costs. Low response rates are due in part  
5 to the difficulty a consumer has in maintaining, cataloging, and finding appropriate coupons  
6 before or during shopping. Moreover, since many coupons have expiration dates, a consumer  
7 has to not only catalogue each coupon by its product type, but also catalogue the coupons to  
8 ensure that redemption occurs before an expiration date. Since such techniques are time-  
9 consuming and cumbersome, the response to coupon campaigns has been limited to consumers  
10 who are on a budget or consumers who use coupons as a hobby. Accordingly, there is a need in  
the industry to simplify the process of coupon use by increasing the response rates, while at the  
same time, reducing consumer management time and lowering the administrative costs of  
processing the coupons after they are tendered.

11 In coupon redemption, fraud can happen on two fronts. Fraud may occur when coupons  
12 are duplicated using state of the art color photocopiers. On the other hand, fraud can be  
13 committed by vendors or merchants that accept such coupons or participate in submitting  
14 duplicated coupons to the manufacturers for rebates without the underlying sales.

15 In addition, known coupon redemption techniques yield little, if any, useful data to  
16 product manufacturers regarding who is redeeming such coupons. Consumer demographic data is  
17 extremely valuable to a product manufacturer in determining which products to target to  
18 particular consumer groups ( e.g., through particular advertising venues). Moreover, the

1 manufacturer is stymied since such demographic data is unavailable to permit more efficient  
2 distribution of future coupons. Information relating to the buying habits such as frequency and  
3 monetary value of products purchased, and demographics of particular consumers or groups of  
4 consumers has tremendous market value. Such information could also be sold or traded for a  
5 profit.

6 Additionally, known techniques of couponing require substantial involvement by the  
7 consumer rather than decreasing the time a consumer spends in redeeming coupons.  
8 Furthermore, the known techniques require that consumers carry the coupons or the instruments  
9 containing coupon information each time they visit a participating store for their purchases.  
10 Therefore, there is a need for a coupon processing system that reduces the time a consumer  
11 spends handling the coupons. There is a further need for a coupon handling system that captures  
12 detailed data about consumers' habits that can be provided to a manufacturer to create better  
13 value of products and newer products to the consumer.

## SUMMARY

14 It is therefore an object of the present invention to improve consumer response to coupon  
15 distribution campaigns.

16 It is a further object of the present invention to create store loyalty due to the database  
17 that is maintained at the store(s) location.

18 It is a further object of the present invention to provide more accurate data regarding  
19 which consumers redeem particular coupons in a coupon distribution campaign.

20 It is a further object of the present invention to provide additional demographic data

1 correlated to consumer and coupon redemption for a coupon distribution campaign.

2 It is a further object of the present invention to reduce the incidence of fraud in the  
3 redemption of coupons or copying of coupons.

4 It is a further object of the present invention to improve consumer response to a coupon  
5 campaign by targeting consumers with specific coupon product lines in response to demographic  
6 data generated from previous coupon campaigns and transactions.

7 It is a further object of the present invention to reduce the time required by a consumer in  
8 order to utilize coupons at any particular store or combinations of stores.

9 It is a further object of the present invention to provide a method for identifying the  
10 location of certain products in a particular store based on the information in the coupon database  
11 relating to a specific consumer.

12 It is a further object of the present invention to save time at checkout by not requiring  
13 coupon scanning at a checkout register.

14 The present invention is an electronic coupon processing system and method that meets  
15 the above stated objectives. The present invention comprises a coupon database containing  
16 coupon information that is associated with a specific consumer. This coupon database is  
17 operated in conjunction with a system for recording information concerning products that are  
18 purchased by a consumer at a particular store. Using the new generation of bar code scanning  
19 registers, the information from the register system is reconciled with information from the  
20 coupon database in order to give the particular consumer credit for coupons that are attributed to  
21 his or her account. The coupon database is subsequently updated to reflect the transactions and

1 the discounts given to the consumer. The consumer information, including both the information  
2 relating to coupons and the information relating to products purchased, can be added to a  
3 database for marketing analysis. This consumer information would be associated with a  
4 particular consumer. The compilation of this information for various consumers at any store  
5 provides invaluable data that can be used to improve products or marketed independently.

6           The information generated for each consumer at the register when the consumer makes  
7 his or her purchases and the coupon database reconciliation is then be forwarded electronically to  
8 the manufacturers for rebates to the vendor.

9           In use, a particular consumer “clips” or acquires coupons and brings them in to a  
10 particular store for scanning or other means of entry into the coupon database. The coupon data  
11 entry can be performed by the consumer or by the store. If the scanning devices are located at  
12 the store, a higher sophistication level can be added, as compared to providing a scanning  
13 mechanism to each individual consumer.

14           These and other features, aspects and advantages of the present invention will become  
15 better understood with reference to the following description, drawings, and appended claims.

16           BRIEF DESCRIPTION OF THE DRAWINGS

17           **Figure 1** shows a scheme for the operation of a coupon database in accordance with a  
18 version of the present invention.

19           **Figure 2** is a schematic of a store operation in accordance with a version of the present  
20 invention.

21           **Figure 3** is a schematic overview of a coupon redemption system and process in

1 accordance with an embodiment of the present invention.

2 **DESCRIPTION**

3       The present invention is described below in connection with the selection, distribution or  
4       redemption of coupons in a store such as a supermarket, grocery store, specialty food store, drug  
5       store, office supply store, discount clubs, or any other institution that offers coupons to or accepts  
6       coupons from its consumers. The term coupons, as used herein, shall mean any mode of  
7       communication with a consumer or a potential consumer offering a specific discount to the  
8       consumer wherein the consumer needs to bring such proof back to a store for redemption. The  
9       most commonly used coupons are the "cents-off" merchandise coupons. Other common coupons  
10      are "two for one," buy one product and get another product for free or at a discount, and the like.  
11      Sometimes coupons are not strictly related to a discount on pricing. Coupons can offer some  
12      other advantage to the consumer, such as the ability to buy a product that is in demand or a  
13      collectible. Information found on coupons in general relate to the particular product,  
14      manufacture, the size of the product, the type of product, other products included or required for  
15      the discount, quantity, discount amounts, validity dates, expiration dates, any limitations on the  
16      number of items per coupon, and the like. It is common today to encode all of the above detailed  
17      information on a coupon in a bar code that is easily readable by a participating store.

18       In accordance with the present invention, the electronic coupon processing system  
19      comprises a coupon database containing coupon information that is attributed to a specific  
20      consumer. The database can be built through manual entry although it is preferred that electronic  
21      scanning means be used. One of the options contemplated by the present invention is that a

1 consumer selects the coupons and brings them to a data processing center in the store or at any  
2 other convenient location. At the processing center, the coupon information is entered into the  
3 database and attributed to the particular consumer. Based on technology available today, one of  
4 the easier means of entry of the data would be through scanners that would read the barcodes off  
5 the coupons. Manual entry of the information is also contemplated. The important factor is that  
6 the coupon data is entered into a database and attributed to a particular account for a particular  
7 consumer.

8 At the time of entry of the information into the database, appropriate steps to eliminate  
9 fraud can be included. This can be achieved by either human review of the coupons or machine  
10 review, or both. It is more economic to utilize sophisticated scanning equipment at a processing  
center when compared to providing consumers with individual scanners. The store or coupon  
center scanners are maintained and optionally operated by skilled workers. As compared to  
providing a scanner to each consumer, the number of scanners at a store or coupon center are  
fewer and can be more sophisticated with a lower overall cost. Editing of the information can  
also be performed, for example, to reject coupons for products not carried by the participating  
store or stores.

17 Consumer identification can be made through the utilization of various codes to be  
18 entered at the time the coupons are scanned or entered. Such means can be through the use of  
19 manual entry of specific codes or other electronic means that identify the consumer. For  
20 example, various stores provide a "frequent shopper" type card that contains detailed information  
21 identifying each consumer. The utilization of pin (personal identification numbers), or magnetic

1 cards are common in the industry.

2 As indicated earlier, the processing center can be utilized by one store or various stores.

3 For example, various stores in a shopping center can participate in the utilization of one common  
4 coupon database. Additionally, various stores that are either affiliated or form some sort of  
5 consortium, can participate in the utilization of a common coupon database, for example, a chain  
6 of supermarkets.

7 It is contemplated in accordance with the present invention that the consumer would have  
8 access to the coupon database in order to review the information contained therein. This review  
9 can be at a particular store, where the consumers are able to print out the available coupons for  
10 their account and the location of the particular products at the store. For example, at a grocery  
11 store, a particular consumer prints out the data from the coupon database and the store can then  
12 include the particular aisle location for each of the products that it carries matching the  
13 information in the coupon database. This simplifies the use of the coupon and encourages  
14 shopper to easily purchase particular items. Additionally, it is contemplated by the present  
15 invention that a consumer is able to review the information in his/her account in the coupon  
16 database at home via access to the database whether by the Internet, a diskette update, or any  
17 other communications from the store. For example, a store can mail to a consumer a periodic  
18 summary of the information on a regular basis and may include other promotions or coupons that  
19 have already been entered into the system based on the market information collected for that  
20 consumer. Other means of displaying the coupon database information, product location or both  
21 can be utilized.

1 At the time a consumer completes the products selection and is ready to pay for the

2 selected products, some sort of register or other means is utilized to input product information.

3 At the time of checkout, <sup>This purchase</sup> ~~the product~~ information is attributed to the specific consumer. The same  
4 means of identifying the consumer, as utilized at the time the coupons are entered into the  
5 coupon database, may be utilized (i.e. the consumer token or card). Different means may also be  
6 utilized as long as the data on the product purchased by the consumer can be tied into the  
7 information associated with that consumer in the coupon database.

8 A comparison of the purchased product information is made with the coupon database for  
9 reconciliation. If any coupons are available, the consumer is able to receive immediate  
10 notification and an automatic discount if applicable. The coupon database is subsequently  
11 updated to reflect the concluded transaction with a consumer.

12 The system automatically performs daily checks in order to remove expired coupons from  
13 the consumer's account. Additionally, a consumer profile can be generated or updated to show  
14 the products purchased, with or without coupons, coupons used, prices or amounts spent, dates,  
15 locations, and the like. The redeemed coupons' information is sent directly to the manufacturer  
16 in the form of a hard copy or in an electronic form for redemption by the vendor. Register  
17 information can be added as proof of purchase, facilitating audit by the manufacturer and  
18 significantly reducing the amount of fraud attributed to the submission of coupons without any  
19 underlying sales.

20 Using the system of the present invention, clearinghouses can be bypassed and the  
21 coupon information can be sorted electronically and sent to the particular manufacturer for

1 reimbursement to the vendor. This saves significant cost associated with any coupon  
2 clearinghouse operation.

3         Figure 1 illustrates one embodiment of the present invention showing the operation and  
4 creation of a coupon database **100**. The consumer brings the coupons **110** to a coupon  
5 processing center. The coupon processing center may be located in the store, outside the store, or  
6 at any other remote location. The data on the coupons is input at the coupon processing center  
7 with the entry of the consumer identification. The data input **120** may be done manually or  
8 electronically, such as by scanning the UPC barcodes. The data includes, but is not limited to,  
9 the product type, size, expiration date of the coupon, amount of discount, special conditions and  
10 the like. Subsequently, the coupon data can be edited **130** and analyzed. For example, the  
11 validity of the coupons can be checked and the coupons can be compared to the items stocked at  
12 the store. The coupon data is subsequently stored **140** and associated with the consumer ID in  
13 the database **100**.

14         Figure 2 illustrates the in-store operations of the present invention. As shown in the  
15 diagram, the consumer shows an ID **210** at the time the coupons are brought to the coupon  
16 processing center. After the coupon data is input into the coupon database, a readout is given to  
17 the consumer **220**. For example, the readout can be sorted alphabetically, by store location, by  
18 product type, by aisle location, or in any other desired manner. This readout is intended to assist  
19 the consumer during shopping **230** by locating products for which the consumer had matching  
20 coupons. At the consumer checkout **240**, the consumer ID is input into the cash register **250**.  
21 After the consumer ID, the product information is input into the register **260**. This input can be

1 done manually but is preferably done with the assistance of a UPC scanner. The register then  
2 communicates with the coupon database in order to match the products being purchased with the  
3 coupons in the consumer's account **270**. As shown in block **280**, credit is instantly given to the  
4 consumer at the cash register. Additionally, the coupon database is updated to deduct the coupon  
5 information that is utilized at the cash register.

6         Figure 3 illustrates the architecture of an embodiment of the present invention. In  
7 accordance with this embodiment, the consumer brings the coupons to a coupon processing  
8 center **110**. The coupon information and the consumer ID are input into a coupon database **100**  
9 and a consumer database **200**. At the checkout **330**, the consumer ID **310** is again input into the  
10 register using the consumer token or card. The input of the consumer ID triggers communication  
11 with the coupon database **100** to check the account of the consumer for coupon information  
12 stored therein. At the cash register, product identification is also input **350**. The input of the  
13 product information triggers communication with the point of sale database **400** and the  
14 transaction database **300**. The consumer is then given instant credit at the cash register.  
15

16         At the conclusion of the transaction, the cash register information is processed to the  
17 various databases. The coupon database **100** is updated to remove used coupons from the  
18 account of the consumer. Additionally, the consumer database **200** is updated to store the  
19 consumer information, again triggered by the consumer ID, relative to the types of products  
20 purchased with and without coupons. The point of sale database **400** is also updated for store  
information.

21         Another database, the transaction database, is also updated to show the coupons utilized

1 and the related sold products. This transaction database can include tamper resistant measures to  
2 preserve the integrity of the cash register information including the consumer identification,  
3 product identification, and coupon database information. Since the information is reflective of  
4 actual transactions, this data is forwarded to a clearinghouse or manufacturer for refunds to the  
5 store. The security or tamper resistant measures on the transaction database would eliminate  
6 possibilities of fraud, since the information would be based on actual cash register information  
7 and automatically updated.

8 An advantage of the present invention is that a consumer's habits are not changed.  
9 Coupon consumers can continue to collect coupons in whatever method they deem appropriate.  
10 Consumers can continue to clip coupons from any newspaper, collect coupons from inserts,  
receive coupons by electronic means, or any other method. Modification of the behavior of the  
consumer is not necessary. Indeed, such behavior is encouraged by simplification of the coupon  
redemption process.

11 Another advantage of the present invention is that the time spent by consumers in  
managing their coupons is reduced. By depositing the coupons at the store or any other center  
f6 for entry into the coupon database, the consumer eliminates the need (a) to carry all of the  
12 coupons every time they shop or go to any participating store, (b) to check which coupons are  
13 still valid, or (c) to look for the applicable coupons at the checkout register. This also saves time  
14 for the store at the checkout register. Both consumer and store operations benefit from reduced  
20 time at the checkout register.

21 Another advantage of the present invention is the creation of store loyalty. Since the

1 consumer has a coupon database at a particular store or group of stores, the consumer would  
2 frequent these stores as opposed to one without the database.

3 Another advantage of the present invention is that the coupon/product reconciliation is  
4 done automatically. This reduces the chances for fraud and error. Since the register information  
5 is used to give the coupon discount, both register and coupon information can be sent to the  
6 clearinghouse or directly to the manufacturer for reimbursement to the participating store.

7 Yet another advantage of the present invention is that information relating to the  
8 consumer is retained for future use. Useful information includes the coupons redeemed by a  
9 consumer, products purchased with or without coupons, frequency of purchases, dollars spent,  
10 relationship of purchases, and the like. A whole industry is built on providing consumer lists.  
Consumer lists with purchasing information is even much more desirable. Based on this  
information, various market analysis studies can be performed.

11 Although the present invention has been described in considerable detail, with reference  
12 to certain preferred versions thereof, other versions are possible. Therefore, the scope of the  
13 appended claims should not be limited to the description of the preferred versions contained  
14 herein. Accordingly, departures may be made from such details without departing from the  
15 scope of applicant's general invented concept. The invention is defined in the following claims.